spring tides, a sudden exposure to atmospheric conditions is improbable. Neither did there appear to be undue crowding of the frustules on the host. Specimens attached to adjacent *Grinnellia* plants did not exhibit frustule abnormalities. Presumably the initiatory factor for these aberrations was localized.

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### LITERATURE CITED

1. CONGER, PAUL S. 1966. Abnormalities in Diatoms: Causes, Classification, Effects, Inheritance; Fallacies Reversed, and a New Explanation. (Abstract). Jour. of Phycol. (Suppl.) **2**: 7.

DRUM, RYAN W. 1964. Notes on Iowa Diatoms. VI. Frustular Aberrations in *Suriella ovalis*. Iowa Acad. Sci. **71**: 51-55.

4. HUSTEDT, F. 1956. Kieselalgen (Diatomeen). Stuttggar, Franckh'sche Verlagshandlung, W. Keller & Co., 70 pp., 35 figs., 4 pls.

4. MEISTER, F. 1932. Kieselalgen aus Asien. Gebrüder Borntraeger Verlag, Berlin. 56 pp.

5. STOSCH, H. A. VON. 1965. Manipulierung der Zellgrösse von Diatomeen im Experiment. Phycologia 5(1): 21-44.

# A CASE OF ALBINISM AND OF PRESUMPTIVE SELF-COMPATIBILITY IN ULMUS L.

In late spring of 1964, large numbers of albino elm seedlings were noticed beneath an elm tree located near the northeast corner of Phillips Brooks House, Harvard Yard, Harvard University, Cambridge, Massachusetts. A quick count of normal and albino seedlings indicated approximately three times as many normal green seedlings as albino seedlings, the 3:1 ratio characteristic of progenies derived from self-pollination of individuals heterozygous for single gene recessive albinism. Time did not then permit a more detailed study.

On June 17, 1966 this elm tree was again visited. The ground beneath was well covered with new seed, some of which had sprouted. Again albinos were observed in great numbers. Unsprouted seed was taken from the ground and, to guard against contamination by seed blown in from other trees, more seed was taken from the little still remaining on the tree.

Germination checks of these two seed lots gave the following results:

| | Actual ratio | Predicted 3:1 ratio |
|---|---|---|
| Seed from ground — | | |
| Normals | 131 | 129 |
| Albinos | 41 | 43 |
| Total | 172 | 172 |
| Seed from tree — | | |
| Normals | 51 | 49.5 |
| Albinos | 15 | 16.5 |
| Total | 66 | 66 |

Chi-square tests for both seed lots, though hardly necessary to test such close approximations of the theoretical, indicate a very close fit indeed for a 3:1 ratio.

When germinated in reduced light, the mutant seedlings were pale green. In normal light this color bleached rapidly and it never appeared in seedlings germinated in normal light.

The parent elm is presumably a cultivar of European origin, either a form of *Ulmus glabra* Huds. or possibly the related *Ulmus x hollandica* var. *Klemmer* (Gillekens) Rehder, of Belgian origin, a putative derivative of hybridization of *Ulmus glabra* and *Ulmus carpinifolia.*

In 1946 L. P. V. Johnson reported that his experiments and observations indicated that *Ulmus* species were highly self-sterile. More recently, in 1960, S. P. K. Britwum, finding no seed (with one exception attributed to pollen contamination) on branches bagged before pollination concluded that *Ulmus wilsonii, U. glabra, U. laevis, U. japonica, U. carpinifolia, U. x hollandica, U. thomasii, U. alata,* and *U. americana* were all highly self-sterile.

Several other trees of the same cultivar and elms of other species are located near the tree of interest here. No albino seedlings were observed in the vicinity of these trees, though normal seedlings were present. The mutant tree is unusual in that it bears a large witches' broom in the upper crown. This abnormality is probably unrelated to the mutant condition, but may possibly be of importance in facilitating self-pollination.

In April, 1967, flowering buds were few and none were observed in the witches' broom. On cut branches brought indoors the main pollen shed occurred one or two days before the stigmas expanded, but some pollen continued to be shed during the period of receptivity of the stigmas.

The data available suggest that this elm tree was largely or entirely self-pollinated and was self-fertile.

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LITERATURE CITED

JOHNSON, L. P. V. 1946. Fertilization in *Ulmus* with special reference to hybridization procedure. Canad. Jour. Res. Sect. C, Bot. Sci. **24**: 1-3.

BRITWUM, S. P. K. 1960. Artificial hybridization in the genus *Ulmus*. Proc. 8th Northeastern Forest Tree Improvement Conference 1960: 43-47.

NOTE ON CORYDALIS BULBOSA On 2 May, 1932, E. J. Palmer collected a *Corydalis* in the Arnold Arboretum on a "shaded bank, near the new [Bussey] greenhouse and State Laboratory, No. 40005". This was identified as *Corydalis bulbosa* (L). DC., and so listed in the "Supplement to the Spontaneous Flora of the Arnold Arboretum" Jour. Arnold Arb. **16**:92 (1935). This population has persisted to the present. During the first week in May of the present year (1967) it made a considerable show under a tree of the flowering crab *Malus* 'Prince Georges' (AA No. 282-43-A). Collections of flowering and fruiting material were made (DeWolf Nos. 1883 and 1883a) and on checking the identification it was found that the population in fact repre-